IN THE CLAIMS:

1. (currently amended) A method for generating an estimate of inhomogeneity, said method comprising:

acquiring an image;

generating a threshold value using the acquired image;

generating a first estimate of inhomogeneity using the acquired image;

generating a second estimate of inhomogeneity using the acquired image; and

~~generating a final estimate of inhomogeneity using at least the first and second estimates and the threshold value~~ generating a final estimate of inhomogeneity using $h(x,y) = \theta_1 h_1 + \theta_2 h_2 + \ldots + \theta_N h_N$, wherein when N=2, the final estimate of inhomogeneity is generated using $h = h_1 + (h_2 - h_1) * \theta$ wherein h is the final estimate, h_1 is the first estimate, h_2 is the second estimate, and θ is a scalar such that $0<\theta<1$.

2. (original) A method in accordance with Claim 1 wherein said generating a first estimate comprises generating a first estimate by filtering an image g_m, said generating a second estimate comprises generating a second estimate of inhomogeneity using an operation other than filtering on an image g_m.

3. (original) A method in accordance with Claim 2 wherein said generating a second estimate comprises generating a second estimate of inhomogeneity by dividing g_m by a threshold value of g_m (threshold g_m).

4. (original) A method in accordance with Claim 3 wherein said generating a second estimate comprises generating a second estimate of inhomogeneity by dividing g_m by threshold g_m where threshold g_m is calculated in accordance with:

if (SD/BI) < A, then the threshold g_m = FI * (BI/FI +B);

else if (SD/BI) < B, then the threshold g_m = FI * (BI/FI +D);

else if (SD/BI) ≤ C, then the threshold g_m = BI;

else if ((SD/BI) > C) AND (BI/FI) < E, then the threshold g_m = FI * G;

else {

the threshold $g_m = FI*(BI/FI - H)$;

if the threshold $g_m < 0.0$, then the threshold $g_m = FI * I$;

}

where FI is foreground intensity computed as an average of structure regions, BI is background intensity computed as an average of non-structure regions having intensity less than FI, SD is a standard deviation of non-structure regions, and A, B, C, D, E, G, H, I are scalars with $A < B < C$.

5. (original) A method in accordance with Claim 4 wherein A is about 0.2, B is about 0.5, C is about 1.0, D is about 0.2, E is about 0.2, G is about 0.2, and H is about 0.1.

6. (original) A method in accordance with Claim 2 wherein said generating a first estimate by filtering an image g_m comprises generating a first estimate by filtering an image g_m with a low pass filter.

7. (original) A method in accordance with Claim 1 wherein said generating a first estimate comprises generating a first estimate by filtering an image g_m with a first filter, said generating a second estimate comprises generating a second estimate of inhomogeneity by filtering an image g_m with a second filter different than the first filter.

8. (original) A method in accordance with Claim 1 wherein said generating a first estimate comprises generating a first estimate by filtering an image g_m with a first low pass filter, said generating a second estimate comprises generating a second estimate of inhomogeneity by filtering an image g_m with a second low pass filter different than the first filter.

9. (original) A method in accordance with Claim 1 wherein said generating a first estimate comprises generating a first estimate by filtering an image g_m with a low pass filter, said generating a second estimate comprises generating a second estimate of inhomogeneity by filtering an image g_m with a band pass filter.

10. (cancelled)

11. (currently amended) A method in accordance with ~~Claim 10~~ Claim 1 wherein generating a second estimate comprises generating a second estimate of inhomogeneity by dividing an image g_m by a threshold value of g_m (threshold g_m) where threshold g_m is calculated in accordance with:

if (SD/BI) < 0.2, then the threshold g_m = FI * (BI/FI +0.2);

else if (SD/BI) < 0.5, then the threshold g_m = FI * (BI/FI +0.1);

else if (SD/BI) ≤ 1.0, then the threshold g_m = BI;

else if ((SD/BI) > 1.0) AND (BI/FI) < 0.2, then the threshold g_m = FI * 0.2;

else {

threshold g_m = FI*(BI/FI – 0.1);

if the threshold g_m < 0.0, then the threshold g_m = FI * 0.1;

}

where FI is foreground intensity computed as an average of structure regions, BI is background intensity computed as an average of non-structure regions having intensity less than FI, and SD is a standard deviation of non-structure regions.

12. (cancelled)

13. (currently amended) A magnetic resonance imaging (MRI) system comprising:

a main magnet configured to generate a substantially uniform magnetic field;

a radio frequency pulse generator configured to excite the magnetic field;

a gradient field generator configured to generate gradients extending in different directions in the magnetic field;

a receiver configured to receive magnetic field magnetic resonance (MR) signals representative of an object; and

a computer operationally coupled to said receiver, said computer configured to:

acquire an image;

generate a threshold value using the acquired image;

generate a first estimate of inhomogeneity using the acquired image;

generate a second estimate of inhomogeneity using the acquired image; and

generate a final estimate of inhomogeneity using at least the first and second estimates and the threshold value, using the first and second estimates in accordance with $h = h_1 + (h_2 - h_1) * \theta$ wherein h is the final estimate, h_1 is the first estimate, h_2 is the second estimate, and θ is a scalar such that $0<\theta<1$.

14. (original) A MRI system in accordance with Claim 13 wherein said computer further configured to:

generate the first estimate by filtering an image g_m; and

generate the second estimate of inhomogeneity using an operation other than filtering.

15. (original) A MRI system in accordance with Claim 14 wherein said computer further configured to generate the second estimate of inhomogeneity by dividing an image g_m by a threshold value of g_m (threshold g_m).

16. (original) A MRI system in accordance with Claim 15 wherein said computer further configured to calculate threshold g_m in accordance with:

if (SD/BI) < 0.2, then the threshold g_m = FI * (BI/FI +0.2);

else if (SD/BI) < 0.5, then the threshold g_m = FI * (BI/FI +0.1);

else if (SD/BI) ≤ 1.0, then the threshold g_m = BI;

else if ((SD/BI) > 1.0) AND (BI/FI) < 0.2, then the threshold g_m = FI * 0.2;

else {

the threshold $g_m = FI*(BI/FI - 0.1)$;

if the threshold $g_m < 0.0$, then the threshold $g_m = FI * 0.1$;

}

where FI is foreground intensity computed as an average of structure regions, BI is background intensity computed as an average of non-structure regions having intensity less than FI, and SD is a standard deviation of non-structure regions.

17. (original) A MRI system in accordance with Claim 14 wherein said computer further configured to generate the first estimate by filtering an image g_m with a low pass filter.

18. (original) A MRI system in accordance with Claim 13 wherein said computer further configured to:

generate the first estimate by filtering an image g_m with a first filter; and

generate the second estimate by filtering an image g_m with a second filter different than the first filter.

19. (original) A MRI system in accordance with Claim 13 wherein said computer further configured to:

generate the first estimate by filtering an image g_m with a first low pass filter; and

generate the second estimate by filtering an image g_m with a second low pass filter different than the first low pass filter.

20. (original) A MRI system in accordance with Claim 13 wherein said computer further configured to:

generate the first estimate by filtering an image g_m with a low pass filter; and

generating the second estimate by filtering an image g_m with a band pass filter.

21. (cancelled)

22. (currently amended) A MRI system in accordance with ~~Claim 21~~ Claim 13 wherein said computer further configured to:

generate the first estimate by filtering an image g_m; and

generating the second estimate of inhomogeneity using an operation other than filtering.

23. (original) A MRI system in accordance with Claim 22 wherein said computer further configured to: generate the second estimate of inhomogeneity by dividing an image g_m by a threshold value of g_m (threshold g_m) where threshold g_m is calculated in accordance with:

if (SD/BI) < 0.2, then the threshold g_m = FI * (BI/FI +0.2);

else if (SD/BI) < 0.5, then the threshold g_m = FI * (BI/FI +0.1);

else if (SD/BI) ≤ 1.0, then the threshold g_m = BI;

else if ((SD/BI) > 1.0) AND (BI/FI) < 0.2, then the threshold g_m = FI * 0.2;

else {

the threshold g_m = FI*(BI/FI – 0.1);

if the threshold g_m < 0.0, then the threshold g_m = FI * 0.1;

}

where FI is foreground intensity computed as an average of structure regions, BI is background intensity computed as an average of non-structure regions having intensity less than FI, and SD is a standard deviation of non-structure regions.

24. (currently amended) A MRI system in accordance with ~~Claim 21~~ Claim 13 wherein said computer further configured to:

generate the first estimate by filtering an image g_m with a first filter; and

generate the second estimate by filtering an image g_m with a second filter different than the first filter.

25. (currently amended) A computer readable medium encoded with a program configured to instruct a computer to:

acquire an image;

generate a threshold value using the acquired image;

generate a first estimate of inhomogeneity using the acquired image;

generate a second estimate of inhomogeneity using the acquired image; and

generate a final estimate of inhomogeneity using at least the first and second estimates and the threshold value, using the first and second estimates in accordance with $h = h_1 + (h_2 - h_1) * \theta$ wherein h is the final estimate, h_1 is the first estimate, h_2 is the second estimate, and θ is a scalar such that $0<\theta<1$.

26. (original) A medium in accordance with Claim 25 wherein said program further configured to instruct the computer to:

generate the first estimate by filtering an image g_m; and

generate the second estimate of inhomogeneity using an operation other than filtering.

27. (original) A medium in accordance with Claim 25 wherein said program further configured to instruct the computer to generate the second estimate of inhomogeneity by dividing an image g_m by a threshold value of g_m (threshold g_m) where threshold g_m is calculated in accordance with:

if (SD/BI) < 0.2, then the threshold g_m = FI * (BI/FI +0.2);

else if (SD/BI) < 0.5, then the threshold g_m = FI * (BI/FI +0.1);

else if (SD/BI) ≤ 1.0, then the threshold g_m = BI;

else if ((SD/BI) > 1.0) AND (BI/FI) < 0.2, then the threshold g_m = FI * 0.2;

else {

the threshold g_m = FI*(BI/FI – 0.1);

if the threshold g_m < 0.0, then the threshold g_m = FI * 0.1;

}

where FI is foreground intensity computed as an average of structure regions, BI is background intensity computed as an average of non-structure regions having intensity less than FI, and SD is a standard deviation of non-structure regions.

28. (original) A medium in accordance with Claim 25 wherein said program further configured to instruct the computer to:

generate the first estimate by filtering an image g_m with a first filter; and

generate the second estimate by filtering an image g_m with a second filter different than the first filter.

29. (original) A medium in accordance with Claim 28 wherein the image g_m filtered with the first filter is the same image g_m filtered with the second filter.

30. (original) A medium in accordance with Claim 28 wherein the image g_m filtered with the first filter is an image different then the image g_m filtered with the second filter.

31. (cancelled)

32. (currently amended) A medium in accordance with ~~Claim 31~~ Claim 1 wherein said program further configured to instruct the computer to generate the second estimate of inhomogeneity by dividing an image g_m by a threshold value of g_m (threshold g_m) where threshold g_m is calculated in accordance with:

if (SD/BI) < 0.2, then the threshold g_m = FI * (BI/FI +0.2);

else if (SD/BI) < 0.5, then the threshold g_m = FI * (BI/FI +0.1);

else if (SD/BI) ≤ 1.0, then the threshold g_m = BI;

else if ((SD/BI) > 1.0) AND (BI/FI) < 0.2, then the threshold g_m = FI * 0.2;

else {

the threshold g_m = FI*(BI/FI – 0.1);

if the threshold g_m < 0.0, then the threshold g_m = FI * 0.1;

}

where FI is foreground intensity computed as an average of structure regions, BI is background intensity computed as an average of non-structure regions having intensity less than FI, and SD is a standard deviation of non-structure regions.